

## The Effectiveness of Health Education Learning Module Based on WebQuest Among Special Education Instructors

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**Abstract:** The WQPKes Module for Special Education Instructors is a learning platform with WebQuest, in helping to increase the instructors' learning experiences in Health Education. In measuring its effectiveness, this module was implemented and tested in the PDK in Gombak, Malaysia. Under the Department of Social Welfare, Malaysia PDK is established in a community to help people with disabilities (PWDs) in providing early interventions and rehabilitation services. This study focussed on food and nutrition topic in WQPKes module. This study employed an exploratory implementation design which incorporated a quasi-experimental research design. The findings showed that the instructors' knowledge on all elements in food and nutrition has improved after the implementation of this module. Potentially, this module could be implemented in other PDKs in Malaysia.

**Keywords:** health education, exploratory implementation design, WebQuest, people with disabilities.

The WQPKes Module for Special Education Instructors is a module developed by Ujang (2016). A retrospective usability evaluation was conducted on ten trainee teachers who had applied the WQPKes learning module with two lecturers as facilitators. Semi-structured interview responses were analyzed thematically. The findings showed that the majority of trainee teachers agreed that Health Education is important for pupils with learning difficulties in primary schools and should be taught during teacher training. The majority of trainee teachers also agreed that the WQPKes module should cover topics on cleanliness, food and diet as health education issues and module contents. Overall, they were satisfied with the learning technique, learning activities and exercises prepared in the WQPKes learning module. It is relevant to state that the learning module has a high potential to enhance their knowledge and skills, and assist the trainee teachers, as the module is comprehensive, easy to follow and interesting.

The findings suggested that the use of technology and emphasis on learning styles are potential to enhance understanding, which are also in line with other past studies (Leko *et al.*, 2012); Ross & Lukow, 2004; Tsoi, Goh, & Chia, 2005). In addition, the improvement of ICT skills and higher-order thinking skills (after the integration of WQPKes) in this study is in parallel with findings from Leko *et al.* (2012).

In Malaysia, a number of institutions (government and non-government) are responsible in providing support to the People With Disabilities (PWDs). For instance, Down Syndrome Association Malaysia and National Autism Society of Malaysia (NASOM) are

among non-government institutions in Malaysia. Whereas, the Community-Based Rehabilitation Centres (PDK) and *Pusat Tunas Bakti* are funded by the government. PDK is under the Department of Social Welfare (*Jabatan Kebajikan Masyarakat Malaysia*, JKM) and is established in a community to help PWD in providing early interventions and rehabilitation services. Therefore, there is a need for PDK instructors or instructors form special-needs institutions, and even parents to enhance their knowledge on the management of the children with special needs.

PDK is a platform in community development. The development in community focuses on rehabilitation, equal rights, and PWD social integration (JKM, 2014). PDK instructor is an individual appointed by PDK committee to conduct his/her duties as a volunteer, but is still bounded by the Service Contract (JKM, 2014). The instructors are responsible to conduct rehabilitation programs according to PDK's Training Module; ensuring the programs/activities are organized and held accordingly, as well as providing advices and guidance for parents with special-needs children (JKM, 2014).

It is very important for PDK instructors to have a strong knowledge foundation on Health Education as it will help to shape them to implement this knowledge into their daily work and be a good example for the center and community. Sulaiman *at el.* (2011) supported that content knowledge of teaching is beneficial in shaping instructor's confidence level in teaching and as the result, will help enhance students' understanding.

**Table 1. Average Mean in Pretest and Posttest**

Knowledge in Food and Nutrition:	Pretest		Posttest	
	mean	SD	mean	SD
Suitable food and nutrition for PWDs	2.45	0.49	3.82	0.39
Classification of nutrient and their importance in healthy lifestyle	2.73	0.45	3.82	0.39
Food that supplies energy to PWDs	2.82	0.39	3.55	0.50
Foods to be avoided by PWDs	2.27	0.45	3.18	0.39
Foods to eat more by PWDs	2.09	0.51	3.36	0.48
Provides an appropriate menu for PWDs	2.45	0.50	3.55	0.50
Suitability in serving cream cake and sweet drinks during birthday party	2.45	0.50	3.91	0.29

Based on a survey conducted in PDK, it is found that the instructors have limited ICT knowledge and skills in conducting the proposed lessons of this module independently. Therefore, the researchers have given one-to-one guidance for them and altered the tasks assigned for them. The WQPKes Module is being implemented for PDK instructors from an early intervention center for PWD.

WebQuest is a web-based learning method that has been developed based on the principles of Constructivism learning in February 1995 by Bernie Dodge at San Diego State University (Dodge, 1995). It is a research-oriented and inquiry-oriented learning resource that all the information used by students is found through the Internet. The developed learning modules will follow the WebQuest construction steps as suggested by Dodge (1995).

Explain the learning experience that will be explored with a comprehensive background information of the topic with stimuli to attract students. The explanation is given about the assignment provided. The assignment needs to draw and express the learning outcomes and focus of learning. It also needs to explain about the desired final product.

WebQuest is an ideal learning medium for instructors who have a sequential learning style (Norlidah, 2010). According to a past study by Adiyodi (2010), pupils with learning difficulties are also more likely to have sequential learning style. However, what is more interesting is that academic achievement of students is also expected to increase if the student learning style is compatible with teacher teaching style (Zahra, 2009; Zahra, Saedah, Rana & Reihaneh, 2010). Pupils will also learn better and a good learning

environment will also be established. This occurs when teachers diversify their teaching methods and take into account the learning styles of their students in planning the learning process (Revatde *et al.*, 2016).

In this study, WebQuest has been selected as a Health Education pedagogical medium for PDK instructors. WebQuest is a web-based learning medium, seen to potentially enable instructors to learn about Health Education. In addition, they will receive supports and guidance in determining the suitability of this method in enhancing students' problem-solving from a dedicated international organization website such as the Council for Exceptional Children and National Association of Parents with Children in Special Education (<http://www.cec.sped.org>).

Health Education is a branch of knowledge where health by definition is one of the dimensions of human functionality. Health is a prosperous state of physical, spiritual, and social that enables everyone to be socially and economically productive (Kamus Dewan Bahasa, 2012).

Since Health Education covers all aspects of health aspects, it is important for instructors to have knowledge to communicate and deliver them, so that their attitude and health practices will be developed in the PWD. PWD instructors need to master the knowledge and skills needed to teach Health Education. This is because healthcare is one of the skills that must be mastered in the practical domain of PWD other than daily activities such as personal care, working skills, financial management, travel and transportation, schedules for daily activities and using telephone services to communicate (Gargiulo, 2012). Therefore, PDK instructors assigned to provide education to this PWD need to be adequately trained before conducting the teaching of Health Education (Tiwari, Rathor, & Singh, 2008).

Providing Health Education is a lifelong task. Awareness of the health components and integrating them into everyday life will expose students about: (i) Responsibility for self-health, healthcare and proper decision-making on activities involving doctors; (ii) Appreciate all the technological equipment used by doctors; (iii) Practice the recommended health practices. (iv) Awareness on the current trends and practices of teenagers; (v) Inquisitive on information related to health issues; (vi) Trying to be independent in personal health matters; (vii) Healthy lifestyle practices.

According to Tan (2009), the formal Health Education Curriculum that is being implemented in the classroom could formally contribute to the holistic development of the students.

Balance intake in food and nutrients are very important in our life. According to World Health Organisation (WHO). Nutrition is the intake of food, considered in relation to the body's dietary needs. Good

health come from good nutrition habit, adequate, well balanced diet combined with regular physical activity. Anyhow poor nutrition can lead to reduced immunity, increased susceptibility to disease, impaired physical and mental development, and reduced productivity (National Food Service Management Institute, 2006). *There are numbers of disabilities or conditions that need special cares for the menus and how the foods should be prepared to avoid nutritional problems for these children.*

For example, there are clinics that treat Autism children with a special meal plan that omits all foods that contain gluten (a product of wheat and some other cereals) and casein (the protein component of milk) (Cornish, 2002). Although results have not been universally beneficial, many physicians prescribe the diet.

Whereas the diet for children with cerebral palsy are suggested to be high in calories, food textures should be chopped, pureed or blended, need special utensils for self feeding and the position also need to be corrected to improve children's chewing and swallowing ability. These are important to avoid them from having difficulty in gaining weight and to ease them from feeding problems due to difficulty with sucking, chewing and swallowing which may contributed to lack in receiving adequate nutrition.

There are numbers of other disabilities that need to be cared of and nutrition that need to be lessen or increase to avoid problems related to nutrition which may affect other body function. Therefore, as a PDK instructor, they need to know the food nutrition for each disabilities for greater benefit to both children and the PDK instructor by these diet modifications.

## METHOD

The aim of this study is to evaluate the effectiveness of WQPKes Module for Special Education Instructors to improve their knowledge in Community-Based Rehabilitation Centres (PDK KAMII) Gombak. This study aims to answer this research question: Does the WQPKes Module effective in improving PDK instructors' knowledge on Food and Nutrition? A total of 11 PDK instructors from PDK KAMII, Gombak involved in this study. They have undergone workshops to implement the WQPKes from April 2016 to April 2017. Instruments to measure the pre and post-test have been developed by an expert. The implementation focused on Food and Nutrition component in Healthy Lifestyle.

The instrument for this study (pretest and posttest) is developed by an expert in Health Education and is being administered on all 11 PDK instructors.

## FINDING AND DISCUSSION

### Finding

The study found that WQPKes Module for Special Education Instructors has a positive impact on PDK instructors' knowledge on all seven elements in food and nutrition topics. Based on data (see the table 1), the comparisons of mean scores (pre and posttest) indicate that there are improvements in all seven element in food and nutrition topics. The mean score for PDK instructors' knowledge on "suitable food and nutrition for PWDs" before the intervention is 2.45 and it has increased to 3.82 (after the intervention). Similarly, for "classification of nutrient and their importance in healthy lifestyle", the mean score in pretest is 2.73 compared to 3.82 after the intervention. For "food that supplies energy to PWDs", the mean score for pretest is 2.82 and has increased to 3.55 after the intervention. The mean score for PDK instructors' knowledge on "food to be avoided and eaten more by PWDs" has improved from 2.27 and 2.09. in pretest to 3.18 and 3.36 in the posttest. Same as the mean score for PDK instructors' knowledge on "provides an appropriate menu for PWDs" and "suitability in serving cream cake and sweet drinks during birthday party" has also increased to 3.55 and 3.91 compared to the pretest 2.45 and 2.45. This data indicate that WQPKes module has a positive impact on PDK instructors' knowledge.

### Discussion

The research finding indicate that WQPKes module has a positive impact on PDK instructors' knowledge. the WebQuest modul is a web-based learning method developed based on the principles of constructivism learning theory (Dodge, 1995). This finding is in according with the study conducted by Alias (2010), Naimie (2009); and Zahra *et al* (2010).

WebQuest is an ideal learning medium for students who have a sequential learning style (Alias, 2010). According to Adiyodi (2010), pupils with learning difficulties are also more likely to have sequential learning style. The academic achievement of students is also expected to increase if the student learning style is compatible with teacher teaching style (Naimie, 2009) and Naimie *et al* (2010). Students will learn better in a good learning environment.

## CONCLUSION AND SUGGESTION

### Conclusion

The WQPKes Module for Special Education Instructors module is found effective as suggested by the findings in this study. The findings showed that the integration of sequential learning style with teaching and learning activities in health education is effective



to improve PDK instructors' knowledge. This also indicates that the use of WebQuest as the medium of instruction is a beneficial and effective platform to develop their knowledge on Health Education. This is because, the health information is easily accessed via established website and links attached in the platform. On the other hand, in terms of knowledge application, it is found that the instructors are able to produce menu for the students with awareness on sugar intake, importance of drinking enough plain water and fruits for a balanced diet. In addition, instructors are more creative in preparing food and looking for alternative menu to suit the students' preferences. They are also produced posters about food and nutrition for PDK KAMII. Furthermore, their ICT skills are found to be improved and this can help to reduce the cost for outside training for them.

### Suggestion

Therefore, the training for the PDK instructors will be continued for the other topics (Drugs, Cigarette, Exercise and Recreation, Rest, Recuperation and Leisure) and a post test will be conducted together with two interviews to further investigate the effectiveness of WQPKes Module implementation for Special Education instructors. This is because, enhancing their knowledge will help to improve the quality of PDK services and help shape a healthier lifestyle for students with disabilities.

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